Response to Office Action of January 24, 2006

Attorney Docket: NORTH-390Q2

# **REMARKS**

This is a response to the Office Action of January 24, 2006.

#### I. SUMMARY OF OFFICE ACTION

Claims 1-2, 5-6, 8-9, 13 and 15 were rejected under 35 U.S.C. §103(a) as being unpatentable over Block et al. (U.S. Patent No. 4,850,044) in view of Cathey et al. (U.S. Patent No. 4,063,0830. Claims 3-4, 10-12 and 17 were rejected under 35 U.S.C. §103(a) as being unpatentable over Block et al. in view of Cathey et al. and further in view of Gehrke et al. (U.S. Patent No. 6,310,992) or Croft et al. (U.S. Patent No. 5,864,708). Claim 16 was rejected under 35 U.S.C. §103(a) as being unpatentable over Block et al. in view of Cathey et al. and further in view of Mizzi (U.S. Patent No. 4,545,023) or Cargin Jr. et al. (U.S. Patent No. 6,023,147).

#### II. APPLICANTS' RESPONSE

## A. Claims 1-6

In the Office Action, Claim 1 was rejected under 35 U.S.C. §103(a) as being unpatentable over Block et al. in view of Cathey et al. In response, Applicants have amended Claim 1 to recite that optical connections are formed between a transmitter LED on at least one of the circuit cards and the receiver photo diodes of any two of the circuit cards. By way of example and not limitation, the system may have first, second and third circuit cards positioned adjacent to each other. Each of the three circuit cards may have a first transmitter LED and a first receiver photodiode. The first transmitter LED of the second circuit card may form an optical pathway with the first receiver photodiode of the first circuit card and the first receiver photodiode of the third circuit card. Hence, each transmitter LED forms two optical pathways to adjacent receiver photodiodes. Applicants have amended Claim 1 in this manner so as to address the Examiner's remarks stated on Page 6 of the Office Action.

The invention recited in Claim 1 is not disclosed in Block et al. or Cathey et al. In support thereof, Block et al. specifically limits "each logic card to **communication only with** the adjacent cards on either side to minimize the transmission distance" (Abstract, Column 5, Lines 22-23, Figures 1, 2 and 4). For example, as understood, Figure 2 illustrates a system

Response to Office Action of January 24, 2006

Attorney Docket: NORTH-390Q2

having first through six circuit cards. Each circuit card has first and second transmitter LEDs and first and second receiver photodiodes. The circuit card communicates with left and right adjacent circuit cards based on a view that each card has two sets of transmitter LEDs and receiver photodiodes. The first transmitter LED may form an optical pathway with the first receiver photodiode of the left circuit card. The first transmitter LEDs does not form an optical pathway with any other receiver photodiode. Also, the second transmitter LED may form an optical pathway with the second receiver photodiode of the right circuit card. The second transmitter LEDs does not form an optical pathway with any other receiver photodiode. Each transmitter LED forms only one optical pathway with another receiver photodiode. Hence, Block et al. does not disclose, suggest or make obvious optical connections between a transmitter LED on one of the circuit cards and at least the receiver photodiodes of at least two of the circuit cards as claimed in Claim 1.

To establish a *prima facia* case of obviousness, the prior art reference (or references when combined) must teach or suggest all of the claimed limitations. As the combined reference Block et al. and Cathey et al. fails to teach every element as claimed in Claim 1, the rejection over Claim 1 is respectfully traversed. Hence, Claim 1 is believed to be in condition for allowance.

The dependent claims of Claim 1, namely Claims 2-6 are also believed to be in condition for allowance for containing additional patentable subject matter as well as for being dependent upon an allowable base Claim 1.

### **B.** Claims 8-13

In the Office Action Claim 8 was also rejected under 35 U.S.C. §103(a) as being unpatentable over Block et al. in view of Cathey et al. In response, Applicants have amended Claim 8 to incorporate the same subject matter as the subject matter incorporated into Claim 1. Applicants respectfully submit that Claim 8 is believed to be in condition for allowance for the same reasons that Claim 1 is believed to be in condition for allowance. Moreover, Applicants respectfully submit that the dependent claims of Claim 8, namely Claim 9-13 are also believed to be in condition for allowance for containing additional patentable subject matter as well as for being dependent upon an allowable base Claim 8.

Response to Office Action of January 24, 2006

Attorney Docket: NORTH-390Q2

## C. Claims 15-17

In the Office Action, Claim 15 was also rejected under 35 U.S.C. §103(a) as being unpatentable over Block et al. in view of Cathey et al. In response, Applicants have amended Claim 15 to further recite that a transmitter LED forms two optical pathways with adjacent receiver photodiodes. Applicants respectfully submit that based on the same reasons discussed in relation to Claim 1, the cited prior art does not disclose, suggest or make obvious the invention recited in Claim 15. Hence, Claim 15 is believed to be in condition for allowance. The dependent claims of Claim 15, namely Claims 16 and 17 are also believed to be in condition for allowance for containing additional patentable subject matter as well as for being dependent upon an allowable base Claim 15.

### D. Cited Prior Art

Applicants acknowledge receipt of the prior art made of record and not relied upon, but considered by the Office Action to be pertinent to Applicants' disclosure. It is Applicants' belief that the cited art, either alone or in combination, does not anticipate, suggest or make obvious the instantly claimed invention.

### III. CONCLUSION

For the foregoing reasons, Applicants respectfully submit that all the stated grounds of rejection have been overcome and that the claims are in condition for allowance. An early notice of allowance is therefore respectfully requested.

Should the Examiner have any suggestions for expediting allowance of the application, the Examiner is invited to contact the Applicants' representative at the telephone number listed below.

Response to Office Action of January 24, 2006

Attorney Docket: NORTH-390Q2

If any additional fee is required, please charge Deposit Account Number 19-4330.

Respectfully submitted,

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